PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/EP2004/007950	16.07.2004	17.07.2003

International Patent Classification (IPC) or both national classification and IPC
F04B13/00, B01F15/04

Applicant
COOPER CAMERON CORPORATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notifed the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was field, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ in written format

   ☐ in computer readable form

   c. time of filing/furnishing:

   ☐ contained in the international application as filed.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. II Priority

1. ☒ The following document has not been furnished:

   ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

   ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

   Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	4,6-10,14-25
	No:	Claims	1-3,5,11-13
Inventive step (IS)	Yes:	Claims	4,6-10,14-25
	No:	Claims	1-3,5,11-13
Industrial applicability (IA)	Yes:	Claims	1-25
	No:	Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Cited Documents

The following documents indicated in the search report are referred to in this written opinion:

D1: US-A-2,789,510 (Meynig, R.E.)
D2: US-A-2,594,577 (McFarland, A.E.)

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

V.1 The present international application does not fulfill the requirements of the PCT, in that the subject-matter of independent claim 1 is considered to lack novelty in the sense of Article 33(2) PCT.

Document **D1** discloses a dosage feed device (liquid injector) for the dosage of an additive fluid (chemical liquid) in crude oil production (oil stream leaving a well). The dosage feed device of **D1** comprises a dosing element (valve 15 mounted on dosing pump 1) which can be adjusted by an adjustment device (needle valve 24/25/26). The dosing element of **D1** further exhibits a dosing gap (gap between end section 24 of needle 25 and seat 23) and a valve device (ball valve 27) arranged following in the fluid flow direction of said additive fluid. Refer to the passages cited in the search report, and in particular to column 3, lines 29-31: *"[...] the rate at which the chemical fluid will be discharged through passageway 22 will be determined by the setting of needle valve 25".*

Hence, all the technical features of claim 1 are directly derivable from document **D1** and therefore the subject-matter of claim 1 is not new (Article 33(2) PCT).

V.2 It is noted that the disclosure of document **D2** also seems to be prejudicial to the novelty (Article 33(2) PCT) of the subject-matter of claim 1. **D2** discloses a common piston type dosing pump with adjustable stroke length of the piston. In this context the dosing element is representable by the piston in its cylinder, and the adjustment device is represented by the stroke adjustment means. The term "dosing gap" is considered to be broad enough to include the pumping chamber/gap 6 of **D2**, which chamber is of adjustable size with the varying of the piston stroke, and which

chamber is delimited by a valve following in the fluid flow direction of said additive fluid.

V.3 Dependent claims 2, 3, 5 and 11 to 13 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT with respect to novelty (Article 33(2) PCT), since these additional features are already known from document **D1**.

Re Item VIII
Certain observations on the international application

VIII.1 The subject-matter of claim 1 lacks clarity in the sense of Article 6 PCT), due to the use of the wording "in particular for" in order to define the dosing of an additive fluid. This wording merely defines an optional, not limiting possiblity of dosing said additive fluid. The lack of clarity arises due to the fact that the mutual arrangement of the dosing gap and the valve device is being defined in relation to the flow direction of the (optional) additive fluid.